Configuration Performance for XEUS/Con-X Collaborative Mission

Webster Cash

University of Colorado

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Module Effective Area

	Favorable	Conservative
Module Area (cm^2)	121	121
XEUS Optic Efficiency	.4	.4
Module Geometric	.8	.6
Grating Efficiency	.3	.2
Total	11	6

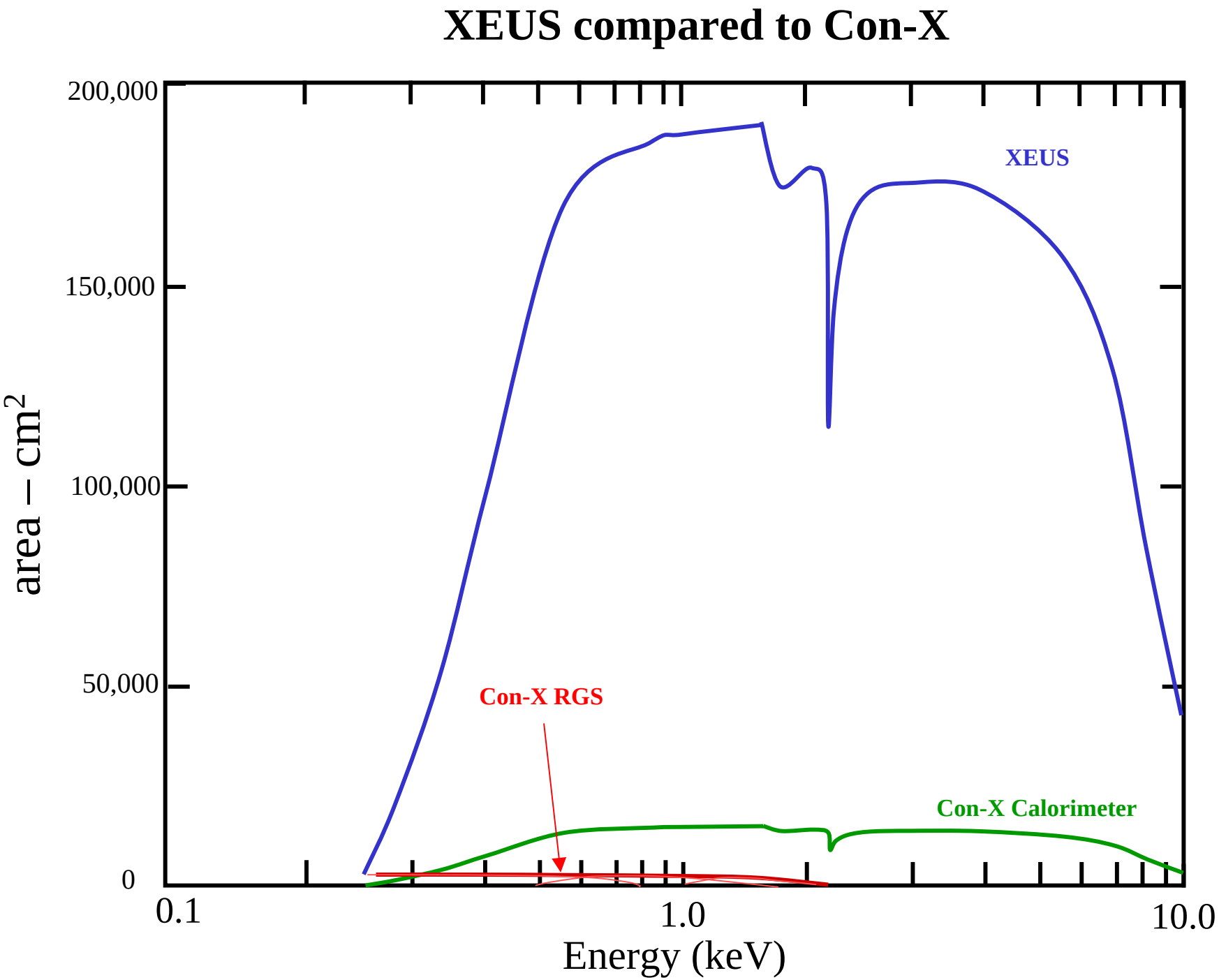
A good estimate usually lies somewhere between two extremes.

Favorable Configurations

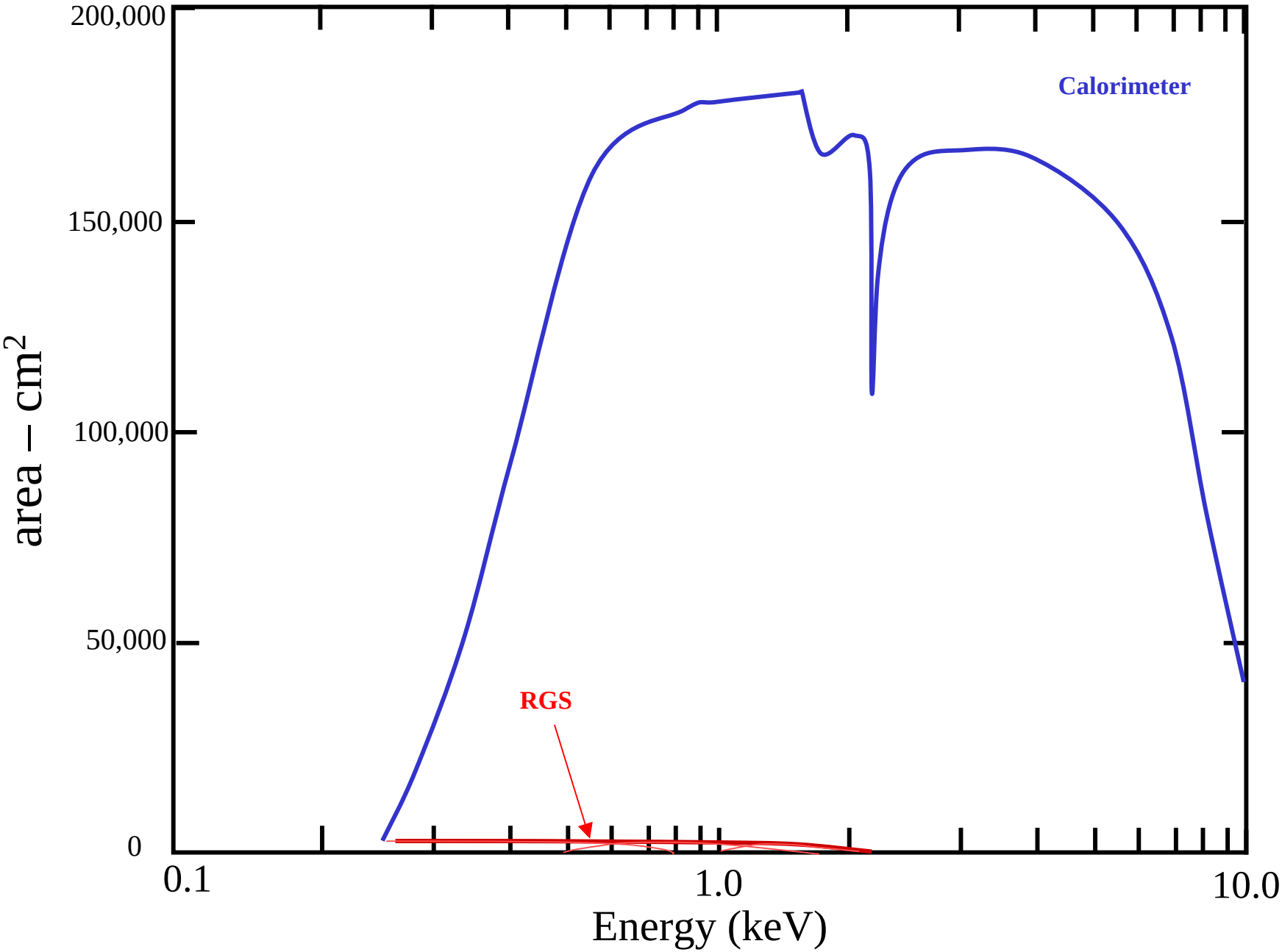
- 50m Configuration requires 275 modules to achieve Con-X science goal of 3000cm^2.
- At 10m from detector each grating gets 25 times as much signal.
- 10m Configuration currently has 34 modules and will thus have about 9350cm^2.

Conservative Configurations

- 50m Configurations requires 500 modules to achieve Con-X science goal of 3000cm^2.
- At 10m from detector each grating gets 25 times as much signal.
- 10m Configuration currently has 34 modules and will thus have about 5100cm^2.

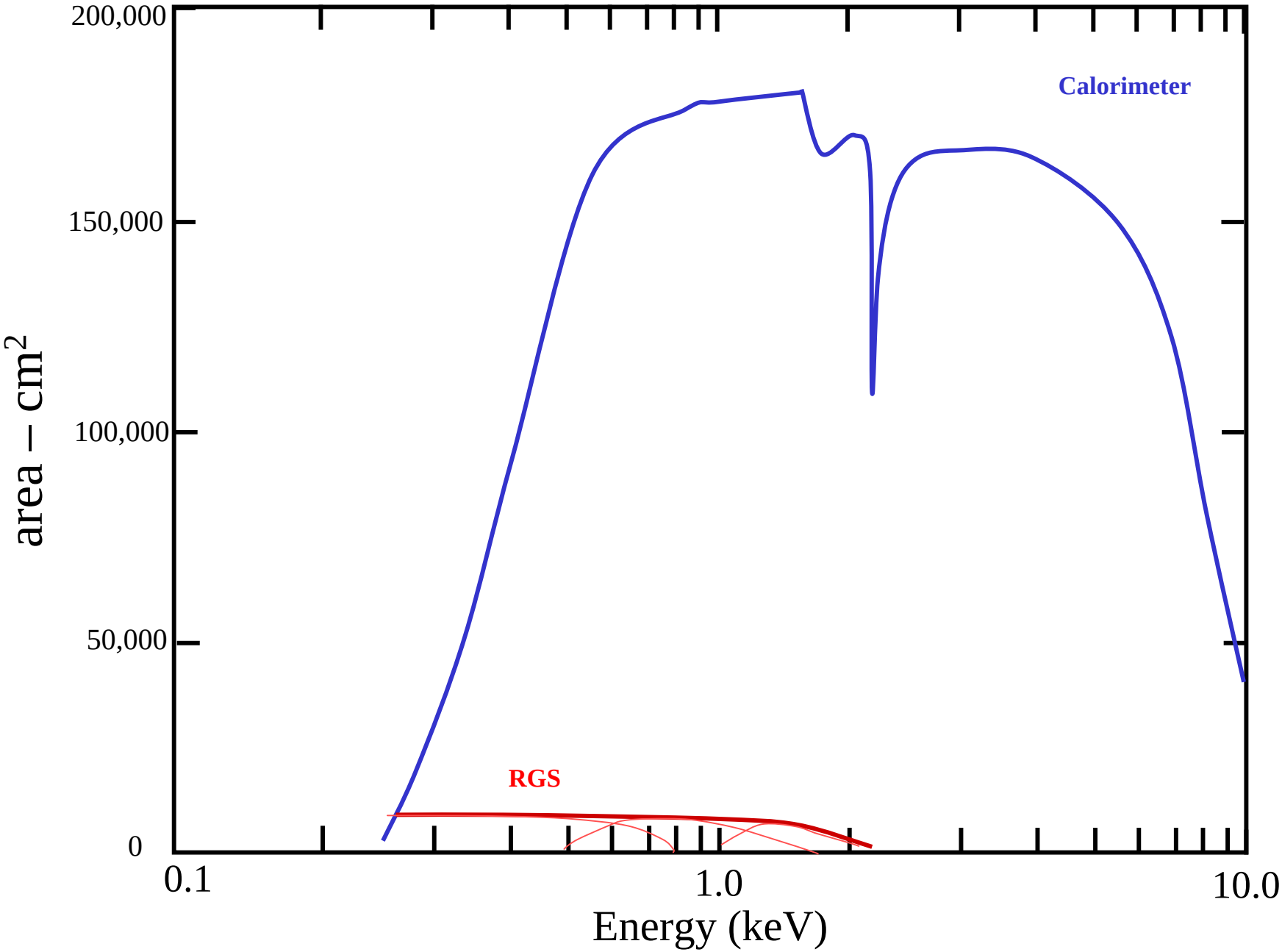

XEUS compared to Con-X
200,000
150,000
100,000
50,000
0
area – cm2
XEUS
Con-X RGS
Con-X Calorimeter
0.1
1.0
10.0
Energy (keV)

Collaborative Mission – 50m Configuration

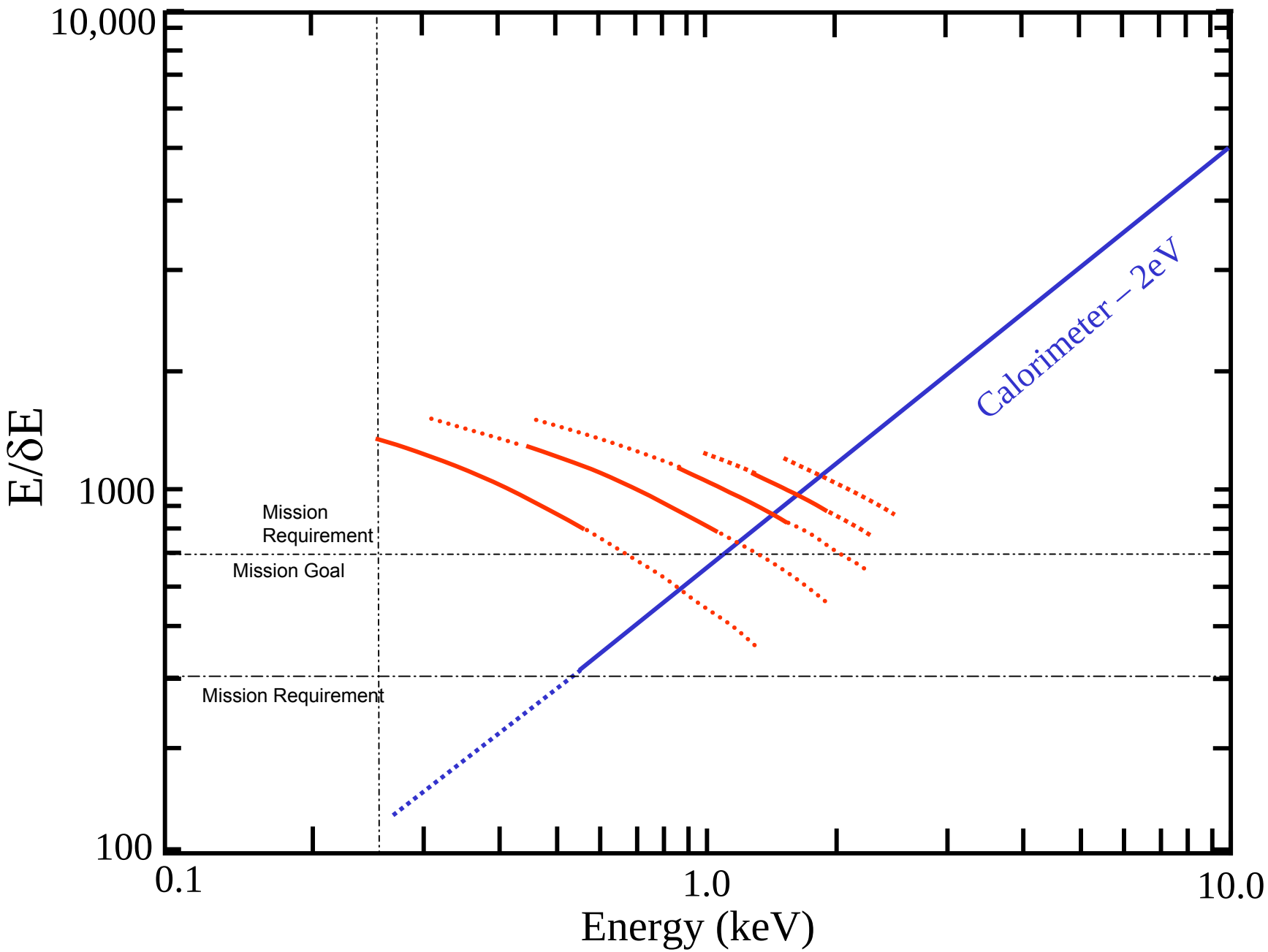


Response – 10m Configuration

Note: RGS exceeds Con-X Requirements



Resolution


10,000
1000
100
E/δE
0.1
1.0
10.0
Energy (keV)
Mission
Requirement
Mission Goal
Mission Requirement
Calorimeter – 2eV